

8 The competent persons shall, on a confidential basis, express their views in writing on:

- .1 a comparison of the facts reported in the information communicated to the Secretary-General by the Party, with all relevant requirements of the Convention;
- .2 the report of any relevant evaluation submitted under regulation I/8, paragraph 3; and
- .3 any additional information provided by the Party.

9 In preparing the report to the Maritime Safety Committee required by regulation I/7, paragraph 2, the Secretary-General shall:

- .1 solicit and take into account the views expressed by competent persons selected from the list established pursuant to paragraph 5;
- .2 seek clarification when necessary from the Party of any matter related to the information provided under regulation I/7, paragraph 1; and
- .3 identify any area in which the Party may have requested assistance to implement the Convention.

10 The Party concerned shall be informed of the arrangements for the meetings of competent persons, and its representatives shall be entitled to be present to clarify any matter related to the information provided pursuant to regulation I/7, paragraph 1.

11 If the Secretary-General is not in a position to submit the report called for by paragraph 2 of regulation I/7, the Party concerned may request the Maritime Safety Committee to take the action contemplated by paragraph 3 of regulation I/7, taking into account the information submitted pursuant to this section and the views expressed in accordance with paragraphs 7 and 8.

**Section A-I/8**

**Quality standards**

**National objectives and quality standards**

1 Each Party shall ensure that the education and training objectives and related standards of competence to be achieved are clearly defined and identify the levels of knowledge, understanding and skills appropriate to the examinations and assessments required under the Convention. The objectives and related quality standards may be specified separately for different courses and training programmes and shall cover the administration of the certification system.

2 The field of application of the quality standards shall cover the administration of the certification system, all training courses and programmes, examinations and assessments carried out by or under the authority of a Party and the qualifications and experience required of instructors and assessors, having regard to the policies, systems, controls and internal quality assurance reviews established to ensure achievement of the defined objectives.

3 Each Party shall ensure that an independent evaluation of the knowledge, understanding, skills and competence acquisition and assessment activities, and of the administration of the certification system, are conducted at intervals of not more than five years in order to verify that:

- .1 all internal management control and monitoring measures and follow-up actions comply with planned arrangements and documented procedures and are effective in ensuring achievement of the defined objectives;
- .2 the results of each independent evaluation are documented and brought to the attention of those responsible for the area evaluated; and
- .3 timely action is taken to correct deficiencies.

4 The report of the independent evaluation required by paragraph 3 of regulation I/8 shall include the terms of reference for the evaluation and the qualifications and experience of the evaluators.

#### **Section A-I/9**

##### **Medical standards - Issue and registration of certificates**

(No provisions)

#### **Section A-I/10**

##### **Recognition of certificates**

1 The provisions of regulation I/10, paragraph 4 regarding the non-recognition of certificates issued by a non-Party shall not be construed as preventing a Party, when issuing its own certificate, from accepting seagoing service, education and training acquired under the authority of a non-Party, provided the Party complies with regulation I/9 in issuing each such certificate, and ensures that the requirements of the Convention relating to seagoing service, education, training and competence are complied with.

2 Where an Administration which has recognized a certificate withdraws its endorsement of recognition for disciplinary reasons, the Administration shall inform the Party that issued the certificate of the circumstances.

#### **Section A-I/11**

##### **Revalidation of certificates**

###### **Professional competence**

1 Continued professional competence as required under regulation I/11, shall be established by:

- .1 approved seagoing service performing functions appropriate to the certificate held for a period of at least one year in total during the preceding five years; or
- .2 having performed functions considered to be equivalent to the seagoing service required in paragraph 1.1; or

- .3 one of the following:
  - .3.1 passing an approved test, or
  - .3.2 successfully completing an approved course or courses, or
  - .3.3 having completed approved seagoing service performing functions appropriate to the certificate held for a period of not less than three months in a supernumerary capacity, or in a lower officer rank than that for which the certificate held is valid immediately prior to taking up the rank for which it is valid.

2 The refresher and updating courses required by regulation I/11 shall be approved and include changes in relevant national and international regulations concerning the safety of life at sea and the protection of the marine environment and take account of any updating of the standard of competence concerned.

#### Section A-I/12

##### Standards governing the use of simulators

##### PART 1 - PERFORMANCE STANDARDS

###### General performance standards for simulators used in training

- 1 Each Party shall ensure that any simulator used for mandatory simulator-based training shall:
  - .1 be suitable for the selected objectives and training tasks;
  - .2 be capable of simulating the operating capabilities of shipboard equipment concerned, to a level of physical realism appropriate to training objectives, and include the capabilities, limitations and possible errors of such equipment;
  - .3 have sufficient behavioural realism to allow a trainee to acquire the skills appropriate to the training objectives;
  - .4 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to the training objectives;
  - .5 provide an interface through which a trainee can interact with the equipment, the simulated environment and, as appropriate, the instructor; and
  - .6 permit an instructor to control, monitor and record exercises for the effective debriefing of trainees.

**General performance standards for simulators used in assessment of competence**

2 Each Party shall ensure that any simulator used for the assessment of competence required under the Convention or for any demonstration of continued proficiency so required, shall:

- .1 be capable of satisfying the specified assessment objectives;
- .2 be capable of simulating the operational capabilities of the shipboard equipment concerned to a level of physical realism appropriate to the assessment objectives, and include the capabilities, limitations and possible errors of such equipment;
- .3 have sufficient behavioural realism to allow a candidate to exhibit the skills appropriate to the assessment objectives;
- .4 provide an interface through which a candidate can interact with the equipment and simulated environment;
- .5 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to assessment objectives; and
- .6 permit an assessor to control, monitor and record exercises for the effective assessment of the performance of candidates.

**Additional performance standards**

3 In addition to meeting the basic requirements set out in paragraphs 1 and 2, simulation equipment to which this section applies shall meet the performance standards given hereunder in accordance with their specific type.

**Radar simulation**

4 Radar simulation equipment shall be capable of simulating the operational capabilities of navigational radar equipment which meets all applicable performance standards adopted by the Organization and incorporate facilities to:

- .1 operate in the stabilized relative motion mode and sea and ground stabilized true motion modes;
- .2 model weather, tidal streams, current, shadow sectors, spurious echoes and other propagation effects, and generate coastlines, navigational buoys and search and rescue transponders; and
- .3 create a real-time operating environment incorporating at least two own ship stations with ability to change own ship's course and speed, and include parameters for at least 20 target ships and appropriate communication facilities.

#### **Automatic Radar Plotting Aid (ARPA) simulation**

5 ARPA simulation equipment shall be capable of simulating the operational capabilities of ARPAs which meet all applicable performance standards adopted by the Organization, and shall incorporate the facilities for:

- .1 manual and automatic target acquisition;
- .2 past track information;
- .3 use of exclusion areas;
- .4 vector/graphic time-scale and data display; and
- .5 trial manoeuvres.

### **PART 2 - OTHER PROVISIONS**

#### **Simulator training objectives**

6 Each Party shall ensure that the aims and objectives of simulator-based training are defined within an overall training programme and that specific training objectives and tasks are selected so as to relate as closely as possible to shipboard tasks and practices.

#### **Training procedures**

7 In conducting mandatory simulator-based training, instructors shall ensure that:

- .1 trainees are adequately briefed beforehand on the exercise objectives and tasks and are given sufficient planning time before the exercise starts;
- .2 trainees have adequate familiarization time on the simulator and with its equipment before any training or assessment exercise commences;
- .3 guidance given and exercise stimuli are appropriate to the selected exercise objectives and tasks and to the level of trainee experience;
- .4 exercises are effectively monitored, supported as appropriate by audio and visual observation of trainee activity and pre and post exercise evaluation reports;
- .5 trainees are effectively debriefed to ensure that training objectives have been met and that operational skills demonstrated are of an acceptable standard;
- .6 the use of peer assessment during debriefing is encouraged; and
- .7 simulator exercises are designed and tested so as to ensure their suitability for the specified training objectives.

#### **Assessment procedures**

8 Where simulators are used to assess the ability of candidates to demonstrate levels of competency, assessors shall ensure that:

- .1 performance criteria are identified clearly and explicitly and are valid and available to the candidates;
- .2 assessment criteria are established clearly and are explicit to ensure reliability and uniformity of assessment and to optimise objective measurement and evaluation, so that subjective judgements are kept to the minimum;
- .3 candidates are briefed clearly on the tasks and/or skills to be assessed and on the tasks and performance criteria by which their competency will be determined;
- .4 assessment of performance takes into account normal operating procedures and any behavioural interaction with other candidates on the simulator or simulator staff;
- .5 scoring or grading methods to assess performance are used with caution until they have been validated; and
- .6 the prime criterion is that a candidate demonstrates the ability to carry out a task safely and effectively to the satisfaction of the assessor.

#### **Qualifications of instructors and assessors**

9 Each Party shall ensure that instructors and assessors are appropriately qualified and experienced for the particular types and levels of training and corresponding assessment of competence as specified in regulation I/6 and section A-I/6.

**Section A-I/13**

**Conduct of trials**

(No provisions)

**Section A-I/14**

**Responsibilities of companies**

1 Companies, masters and crew members each have responsibility for ensuring that the obligations set out in this section are given full and complete effect and that such other measures as may be necessary are taken to ensure that each crew member can make a knowledgeable and informed contribution to the safe operation of the ship.

2 The company shall provide written instructions to the master of each ship to which the Convention applies, setting forth the policies and the procedures to be followed to ensure that all seafarers who are newly employed on board the ship are given a reasonable opportunity to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of their duties, before being assigned to those duties. Such policies and procedures shall include:

- 1 allocation of a reasonable period of time during which each newly employed seafarer will have an opportunity to become acquainted with:
  - .1.1 the specific equipment the seafarer will be using or operating, and
  - .1.2 ship specific watchkeeping, safety, environmental protection and emergency procedures and arrangements the seafarer needs to know to perform the assigned duties properly; and
- .2 designation of a knowledgeable crew member who will be responsible for ensuring that an opportunity is provided to each newly employed seafarer to receive essential information in a language the seafarer understands.

**Section A-I/15**

**Transitional provisions**

(No provisions)

## CHAPTER II

### STANDARDS REGARDING THE MASTER AND DECK DEPARTMENT

#### Section A-II/1

**Mandatory minimum requirements for certification of officers in charge of a navigational watch on ships of 500 gross tonnage or more**

##### **Standard of competence**

- 1 Every candidate for certification shall:
  - .1 be required to demonstrate the competence to undertake at operational level, the tasks, duties and responsibilities listed in column 1 of table A-II/1;
  - .2 at least hold an appropriate certificate for performing VHF radiocommunications in accordance with the requirements of the Radio Regulations; and
  - .3 if designated to have primary responsibility for radiocommunications during distress incidents, hold an appropriate certificate issued or recognized under the provisions of the Radio Regulations.
- 2 The *minimum* knowledge, understanding and proficiency required for certification is listed in column 2 of table A-II/1.
- 3 The level of knowledge of the subjects listed in column 2 of table A-II/1 shall be sufficient for officers of the watch to carry out their watchkeeping duties.
- 4 Training and experience to achieve the necessary level of theoretical knowledge, understanding and proficiency shall be based on section A-VIII/1, part 3-1 - Basic principles to be observed in keeping a navigational watch and shall also take into account the relevant requirements of this part and the guidance given in part B of this Code.
- 5 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence tabulated in columns 3 and 4 of table A-II/1.

##### **On-board training**

- 6 Every candidate for certification as officer in charge of a navigational watch of ships of 500 gross tonnage or more whose seagoing service, in accordance with paragraph 2.2 of regulation II/1, forms part of a training programme approved as meeting the requirements of this section shall follow an approved programme of on-board training which:

- .1 ensures that during the required period of seagoing service the candidate receives systematic practical training and experience in the tasks, duties and responsibilities of an officer in charge of a navigational watch, taking into account the guidance given in section B-II/1 of this Code;
- .2 is closely supervised and monitored by qualified officers aboard the ships in which the approved seagoing service is performed; and
- .3 is adequately documented in a training record book or similar document.

#### Near-coastal voyages

7 The following subjects may be omitted from those listed in column 2 of table A-II/1 for issue of restricted certificates for service on near-coastal voyages, bearing in mind the safety of all ships which may be operating in the same waters:

- .1 celestial navigation; and
- .2 those electronic systems of position fixing and navigation that do not cover the waters for which the certificate is to be valid.

**Table A-III/1**  
**Specification of minimum standard of competence for officers in charge of a  
 navigational watch on ships of 500 gross tonnage or more**

Function: Navigation at the operational level			
Column 1 COMPETENCE	Column 2 KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	Column 3 METHODS FOR DEMONSTRATING COMPETENCE	Column 4 CRITERIA FOR EVALUATING COMPETENCE
Plan and conduct a passage and determine position	<p><i>Celestial Navigation</i></p> <p>Ability to use celestial bodies to determine the ship's position</p> <p><i>Terrestrial and Coastal Navigation</i></p> <p>Ability to determine the ship's position by use of:</p> <ul style="list-style-type: none"> <li>.1 landmarks</li> <li>.2 aids to navigation, including lighthouses, beacons and buoys</li> <li>.3 dead reckoning, taking into account winds, tides, currents and estimated speed</li> </ul>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> <li>.1 approved in-service experience</li> <li>.2 approved training ship experience</li> <li>.3 approved simulator training, where appropriate</li> <li>.4 approved laboratory equipment training</li> </ul>	<p>The information obtained from navigational charts and publications is relevant, interpreted correctly and properly applied. All potential navigational hazards are accurately identified</p> <p>The primary method of fixing the ship's position is the most appropriate to the prevailing circumstances and conditions</p> <p>The position is determined within the limits of acceptable instrument/system errors</p> <p>The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate</p> <p>The charts selected are the largest scale suitable for the area of navigation and charts and publications are corrected in accordance with the latest information available</p>

using: chart catalogues, charts, navigational publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo sounding equipment, compass

NOTE: ECDIS systems are considered to be included under the term "charts"

**Table A-IV/1**  
**Table A-IV/1 notes**

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Plan and conduct a passage and determine position (continued)	<p><i>Electronic systems of position fixing and navigation</i></p> <p>Ability to determine the ship's position by use of electronic navigational aids</p> <p><i>Echo sounders</i></p> <p>Ability to operate the equipment and apply the information correctly</p> <p><i>Compass - magnetic and gyro</i></p> <p>Knowledge of the principles of magnetic and gyro compasses</p> <p>Ability to determine errors of the magnetic and gyro compasses, using celestial and terrestrial means, and to allow for such errors</p> <p><i>Steering control systems</i></p> <p>Knowledge of steering control systems, operational procedures and change-over from manual to automatic control and vice-versa.</p> <p>Adjustment of controls for optimum performance</p> <p><i>Meteorology</i></p> <p>Ability to use and interpret information obtained from shipborne meteorological instruments</p> <p>Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems</p> <p>Ability to apply the meteorological information available</p>	<p>Performance checks and tests to navigation systems comply with manufacturer's recommendations and good navigational practice</p>	<p>Errors in magnetic and gyro compasses are determined and correctly applied to courses and bearings</p> <p>The selection of the mode of steering is the most suitable for the prevailing weather, sea and traffic conditions and intended manoeuvres</p> <p>Measurements and observations of weather conditions are accurate and appropriate to the passage.</p> <p>Meteorological information is correctly interpreted and applied</p>

Table A-IV/1  
Page 2 of 11 pages

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
<b>Maintain a safe navigational watch</b>	<b>Watchkeeping</b> Thorough knowledge of the content, application and intent of the International Regulations for Preventing Collisions at Sea Thorough knowledge of the basic principles to be observed in keeping a navigational watch Thorough knowledge of effective bridge team work procedures The use of routing in accordance with the General Provisions on Ships' Routing	Examination and assessment of evidence obtained from one or more of the following: 1. approved in-service experience; 2. approved training ship experience; 3. approved simulator training, where appropriate; 4. approved laboratory equipment training	The conduct, hand over and relief of the watch conforms with accepted principles and procedures A proper lookout is maintained at all times and in such a way as to conform to accepted principles and procedures Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea and are correctly recognized The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures A proper record is maintained of the movements and activities relating to the navigation of the ship Responsibility for the safety of navigation is clearly defined at all times, including periods when the master is on the bridge and while under pilotage
<b>Use of radar and ARPA to maintain safety of navigation</b>  Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned.	<b>Radar Navigation</b> Knowledge of the fundamentals of radar and automatic radar plotting aids (ARPA) Ability to operate and to interpret and analyse information obtained from radar, including the following:	Assessment of evidence obtained from approved radar simulator and ARPA simulator training plus in-service experience	Information obtained from radar and ARPA is correctly interpreted and analysed taking into account the limitations of the equipment and prevailing circumstances and conditions

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Use of radar and ARPA to maintain safety of navigation (continued)	<p>Performance including:</p> <ul style="list-style-type: none"> <li>.1 factors affecting performance and accuracy</li> <li>.2 setting up and maintaining displays</li> <li>.3 detection of misrepresentation of information, false echoes, sea return, etc., radars and SARTs</li> </ul> <p>Use including:</p> <ul style="list-style-type: none"> <li>.1 range and bearing, course and speed of other ships, time and distance of closest approach of crossing, meeting overtaking ships</li> <li>.2 identification of critical echoes; detecting course and speed changes of other ships; effect of changes in own ship's course or speed or both</li> </ul>	<p>Action taken to avoid a close encounter or collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea</p> <p>Decisions to amend course and/or speed are both timely and in accordance with accepted navigation practice</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p> <p>Communication is clear, concise and acknowledged at all times in a seamanlike manner</p> <p>Manoeuvring signals are made at the appropriate time and are in accordance with the International Regulations for Preventing Collisions at Sea</p>	

Table A-II/1  
Page 4 of 11 pages

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
<p>Use of radar and ARPA to maintain safety of navigation (continued)</p> <p>Note: Training and assessment in the use of ARPA is not required for those who serve exclusively on ships not fitted with ARPA. This limitation shall be reflected in the endorsement issued to the seafarer concerned.</p>	<p>3 application of the International Regulations for Preventing Collisions at Sea</p> <p>4 plotting techniques and relative and true motion concepts</p> <p>5 parallel indexing</p>	<p>Principal types of ARPA, their display characteristics, performance standards and the dangers of over reliance on ARPA</p> <p>Ability to operate and to interpret and analyse information obtained from ARPA, including:</p> <ul style="list-style-type: none"> <li>1 system performance and accuracy, tracking capabilities and limitations, and processing delays</li> <li>2 use of operational warnings and system tests</li> </ul> <p>3 methods of target acquisition and their limitations</p> <p>4 true and relative vectors, graphic representation of target information and danger areas</p> <p>5 deriving and analysing information, critical echoes, exclusion areas and trial manoeuvres</p>	

Table A-II/1  
Page 5 of 11 pages

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Respond to emergencies	<p><i>Emergency procedures</i></p> <p>Precautions for the protection and safety of passengers in emergency situations</p> <p>Initial action to be taken following a collision or a grounding, initial damage assessment and control</p> <p>Appreciation of the procedures to be followed for rescuing persons from the sea, assisting a ship in distress, responding to emergencies which arise in port</p> <p><i>Search and rescue</i></p> <p>Knowledge of the contents of the IMO Merchant Ship Search and Rescue Manual (MERSAR)</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> <li>1. approved in-service experience</li> <li>2. approved training ship experience</li> <li>3. approved simulator training, where appropriate</li> <li>4. practical training</li> </ol> <p>Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate</p>	<p>The type and scale of the emergency is promptly identified</p> <p>Initial actions and, if appropriate, manoeuvring of the ship are in accordance with contingency plans and are appropriate to the urgency of the situation and nature of the emergency</p> <p>The distress or emergency signal is immediately recognized</p> <p>Contingency plans and instructions in standing orders are implemented and complied with</p>
Respond to a distress signal at sea			

Table A-II/1  
Page 6 of 11 pages

COMPETENCE	KNOWLEDGE, UNDERSTANDING AND PROFICIENCY	METHODS FOR DEMONSTRATING COMPETENCE	CRITERIA FOR EVALUATING COMPETENCE
Use the Standard Marine Navigational Vocabulary as replaced by the IMO Standard Marine Communication Phrases and use English in written and oral form	<i>English language</i> Adequate knowledge of the English language to enable the officer to use charts and other nautical publications, to understand meteorological information and messages concerning ship's safety and operation, to communicate with other ships and coast stations and to perform the officer's duties also with a multi-lingual crew, including the ability to use and understand the Standard Marine Navigational Vocabulary as replaced by the IMO Standard Marine Communication Phrases	Examination and assessment of evidence obtained from practical instruction	English language navigational publications and messages relevant to the safety of the ship are correctly interpreted or drafted Communications are clear and understood
Transmit and receive information by visual signalling	<i>Visual signalling</i> Ability to transmit and receive signals by Morse light Ability to use the International Code of Signals	Assessment of evidence obtained from practical instruction	Communications within the operator's area of responsibility are consistently successful

Table A-II/1  
Page 7 of 11 pages